



Amendments to Claims

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10. (Currently amended) A local area network system utilizing a plurality of discrete multitone (DMT) remote units in communication with a central office providing digital subscriber line service comprising:
 - a DMT transceiver central office unit;
 - a master DMT transceiver remote unit connected to a local area network, wherein the master DMT transceiver remote unit provides a local area network timing reference for at least one other DMT transceiver remote unit when the DMT transceiver central office unit is not available;
 - a set of DMT carriers providing a DMT communication link between the DMT transceiver central office unit and the master DMT transceiver remote unit;
 - a slave DMT transceiver remote unit connected to the local area network; and

a set of local area network carriers providing a local area network communication link between the slave DMT transceiver remote unit and the master DMT transceiver remote unit using timing derived from the set of DMT carriers providing a communication link between the master DMT transceiver remote unit and the DMT transceiver central office unit when the DMT transceiver central unit is available.

11. (Currently amended) The network in claim 10 wherein the set of local area network carriers providing atthe local area network communication link between the slave DMT transceiver remote unit and the master DMT transceiver remote unit are adjacent to the set of DMT carriers providing atthe DMT communication link between the DMT transceiver central office unit and the master DMT transceiver remote unit.

12. (Currently amended) A local area network system utilizing a plurality of asymmetric digital subscriber line (ADSL) remote units in communication with a central office providing digital subscriber line service comprising:

an ADSL transceiver central office unit;

a master ADSL transceiver remote unit connected to a local area network;

a plurality of ADSL carriers having frequencies within an ADSL frequency spectrum providing an ADSL communication link between the ADSL transceiver central office unit and the master ADSL transceiver remote unit;

a slave ADSL transceiver remote unit connected to the local area network; and

a set of local area network carriers providing a local area network communication link between the slave ADSL transceiver remote unit and the master ADSL transceiver remote unit using timing derived from the plurality of ADSL carriers providing a communication link

between the master ADSL transceiver remote unit and the ADSL transceiver central office unit,
wherein the set of local area network carriers utilize a bin spacing equal to the bin spacing of the
set of DMT carriers providing a DMT communication link between the DMT transceiver central
office unit and the master DMT transceiver remote unit.

13. (Original) The network in claim 12 wherein the set of local area network carriers providing the local area network communication link between the slave ADSL transceiver remote unit and the master ADSL transceiver remote unit are adjacent to the plurality of ADSL carriers providing the ADSL communication link between the ADSL transceiver central office unit and the master ADSL transceiver remote unit.

14. (Original) The network in claim 12 wherein the ADSL frequency spectrum is comprised of the frequencies between 25 kHz and 552 kHz.

15. (Original) The network in claim 12 wherein the set of local area network carriers utilizing a frequency spectrum is comprised of the frequencies between 552 kHz and 1.104 MHz.

16. (Cancelled)

17. (Original) The network in claim 12 wherein the set of local area network carriers are coordinated by the slave DMT transceiver remote unit and the master DMT transceiver remote unit.

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21. (Cancel)

22. (Currently amended) A discrete multitone (DMT) transceiver remote unit for communicating with at least one other DMT transceiver remote unit and capable of communicating with a central office comprising:

a DMT transceiver capable of communicating with the central office and with the at least one other DMT transceiver remote unit, wherein the DMT transceiver generates and receives time domain signals having a set of carriers; and

a controller in connection with the DMT transceiver, wherein the controller allocates a set of local area network carrier frequencies providing communication with the at least one other DMT transceiver remote unit, wherein the controller provides a local area network timing reference for the at least one other DMT transceiver remote unit when the central office is unavailable.

23. (Canceled)

24. (Currently amended) The DMT transceiver remote unit ~~apparatus~~ of Claim 22 wherein the DMT transceiver remote unit is adaptable to exist as a master DMT transceiver remote unit or a slave DMT transceiver remote unit.

25. (Currently amended) The DMT transceiver remote unit ~~apparatus~~ of Claim 22 wherein the set of local area network carrier frequencies include idle carrier frequencies within a DSL frequency spectrum.

26. (Currently amended) The DMT transceiver remote unit ~~apparatus~~ of Claim 22 wherein the set of local area network carrier frequencies are within a local area network frequency spectrum adjacent to a DSL frequency spectrum.

27. (Canceled)

28. (Currently amended) ~~The method of Claim 27 further comprising~~ A method for communicating with at least one other digital subscriber line (DSL) transceiver remote unit and capable of communicating with a central office comprising:

determining if a DSL transceiver remote unit having a DMT transceiver is a master, and if so,

determining if there is communication with a DSL central office unit, and if so,

locking a transmit and a receive sampling clock of the DMT transceiver to a transmit sampling clock of the central office;

aligning a first DMT transmit symbol of the DMT transceiver with a second DMT transmit symbol received from the central office;

coordinating a set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing a communication link with the at least one other DSL transceiver remote unit;

determining if there is communication with ~~at~~ the DSL central office unit, and if not,

transmitting a network timing reference providing a local area network timing reference for the at least one other DSL transceiver remote unit; and

coordinating ~~at~~ the set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing communication with the at least one other DSL transceiver remote unit.

29. (Currently amended) ~~The method of claim 27 further comprising~~ A method for communicating with at least one other digital subscriber line (DSL) transceiver remote unit and capable of communicating with a central office comprising:

determining if a DSL transceiver remote unit having a DMT transceiver is a master, and if so,

determining if there is communication with a DSL central office unit, and if so,

locking a transmit and a receive sampling clock of the DMT transceiver to a transmit sampling clock of the central office;

aligning a first DMT transmit symbol of the DMT transceiver with a second DMT transmit symbol received from the central office;

coordinating a set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing a communication link with the at least one other DSL transceiver remote unit;

determining if the DSL transceiver remote unit having athe DMT transceiver is athe master, and if not,

locking athe transmit and athe receive sampling clock of the DMT transceiver to athe transmit sampling clock of the DSL transceiver unit central office

aligning athe first DMT transmit symbol of the DMT transceiver with athe second DMT transmit symbol received from the master DSL transceiver remote unit; and

coordinating athe set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing athe communication link with the at least one other DSL transceiver remote unit.

30. (Currently amended) ~~The method of claim 27 further comprising~~ A method for communicating with at least one other digital subscriber line (DSL) transceiver remote unit and capable of communicating with a central office comprising:

determining if a DSL transceiver remote unit having a DMT transceiver is a master, and if so,

determining if there is communication with a DSL central office unit, and if so,

locking a transmit and a receive sampling clock of the DMT transceiver to a transmit sampling clock of the central office;

aligning a first DMT transmit symbol of the DMT transceiver with a second DMT transmit symbol received from the central office;

coordinating a set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing a communication link with the at least one other DSL transceiver remote unit;

determining if the DSL transceiver remote unit having atthe DMT transceiver is atthe master, and if not,

locking atthe transmit and atthe receive sampling clock of the DMT transceiver to atthe transmit sampling clock of the master DSL transceiver remote unit;

aligning atthe first DMT transmit symbol of the DMT transceiver with atthe second DMT transmit symbol received from the master DSL transceiver remote unit; and

coordinating atthe set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing atthe communication link with the at least one other DSL transceiver remote unit.

31. (Currently amended) ~~The method of claim 27 further comprising~~ A method for communicating with at least one other digital subscriber line (DSL) transceiver remote unit and capable of communicating with a central office comprising:

determining if a DSL transceiver remote unit having a DMT transceiver is a master, and if so,

determining if there is communication with a DSL central office unit, and if so,

locking a transmit and a receive sampling clock of the DMT transceiver to a transmit sampling clock of the central office;

aligning a first DMT transmit symbol of the DMT transceiver with a second DMT transmit symbol received from the central office;

coordinating a set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing a communication link with the at least one other DSL transceiver remote unit;

determining if the DSL transceiver remote unit having athe DMT transceiver is athe master, and if not,

locking athe transmit and athe receive sampling clock of the DMT transceiver to athe transmit sampling clock of the master DSL transceiver remote unit;

aligning athe first DMT transmit symbol of the DMT transceiver with athe second DMT transmit symbol received from the DSL transceiver unit central office; and

coordinating athe set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing athe communication link with the at least one other DSL transceiver remote unit.

32. (Currently amended) ~~The method of claim 27 further comprising~~ A method for communicating with at least one other digital subscriber line (DSL) transceiver remote unit and capable of communicating with a central office comprising:

determining if a DSL transceiver remote unit having a DMT transceiver is a master, and if so,

determining if there is communication with a DSL central office unit, and if so,

locking a transmit and a receive sampling clock of the DMT transceiver to a transmit sampling clock of the central office;

aligning a first DMT transmit symbol of the DMT transceiver with a second DMT transmit symbol received from the central office;

coordinating a set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing a communication link with the at least one other DSL transceiver remote unit;

determining if the DSL transceiver remote unit having athe DMT transceiver is athe master, and if not,

locking athe transmit and athe receive sampling clock of the DMT transceiver to athe transmit sampling clock of the DSL transceiver unit central office;

aligning athe first DMT transmit symbol of the DMT transceiver with athe second DMT transmit symbol received from the DSL transceiver unit central office; and

coordinating athe set of local area network carrier frequencies with the at least one other DSL transceiver remote unit providing athe communication link with the at least one other DSL transceiver remote unit.

33. (Currently amended) A computer readable medium having stored therein instructions for causing a central processing unit to execute the method of claim 2728.

34. (Canceled)

35. (New) A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 29.

36. (New) A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 30.

37. (New) A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 31.

38. (New) A computer readable medium having stored therein instructions for causing a processor to execute the method of claim 32.